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EXAMINER

BOYD, JENNIFER A

ART UNIT PAPER NUMBER

1771

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**GROUP 1700**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/719,153  
Filing Date: March 16, 2001  
Appellant(s): MARZOLIN ET AL.

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Gregory J. Maier  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed November 1, 2005 appealing from the Office action mailed February 25, 2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

**WITHDRAWN REJECTIONS**

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. The Examiner has withdrawn the rejection of claims 1 – 11, 13 – 18 and 20 – 21 under the enablement requirements of 35 USC 112, first paragraph.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

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**(8) Evidence Relied Upon**

"Comparable." Webster's Ninth New Collegiate Dictionary, 1986.

Application of Powder Diffraction for Study of Nanomaterials, 3 March 2005,

<<http://www.xrd.us/applnote/nanomaterials.htm>>.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 112***

Claims 1 and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 2 – 11, 14 – 18 and 20 – 21 are rejected as being dependent on rejected independent claims 1 and 13.

The amendment to independent claims 1 and 13 “which is *comparable* to the mean size of crystallites of the at least partly crystallized titanium oxide in anatase form” is not supported by the Specification. On page 10, lines 16 – 21, the Appellant states in the Specification that “This sheathing ensures maximum effectiveness of the coating, its photocatalytic activity increasing as it is distributed over a greater specific surface. The most preferred thickness takes into account the most commonly encountered mean size of the anatase TiO<sub>2</sub> crystallites”. It should be noted that the Specification states that the thickness “takes into account” and does not state that the thickness is “*comparable* to a mean size of crystallites”. The phrase “takes into

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account” is a very broad limitation and does not necessarily require that the size is *comparable* to the mean size of the crystallites.

#### **(10) Response to Argument**

Appellant argues that the limitation of claims 1 and 13 requiring that the thickness of the coating is “comparable to a mean size of crystallites of the at least partially crystallized titanium oxide in anatase form” is supported by the Specification. Appellant’s claims 1 and 13 require a relationship between the mean size of *crystallites* and the thickness of the photocatalytic coating comprising the crystallites, wherein the relationship is defined as the mean size of the crystallites is *comparable* to the thickness of the photocatalytic coating. According to Webster’s Ninth New Collegiate Dictionary, the term “comparable” is defined as “1: capable of or suitable for comparison 2: equivalent or similar”. It should be noted that Appellant’s Specification indicates on page 10, lines 15 – 21 of the Specification that “The preferred thickness *takes into account* the most commonly encountered mean size of the anatase TiO<sub>2</sub> crystallites”. The Examiner submits that “takes into account” does not mean or imply “comparable”. Appellant argues that “comparable” falls into the scope suggested by the “expression “takes into account”. It should be noted that the phrase “takes into account” is so broad and it only requires that some sort of relationship is established between the crystallite size and thickness. Therefore, the Examiner submits that the Appellant needs further support for the claim limitation of “comparable”. The Appellant has attempted to show support for “comparable” by citing various Examples and passages from the Specification. However, it should be noted that those Examples and passages discuss the mean size of “agglomerated particles” and “crystalline particles” and not

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“crystallites” as required by independent claims 1 and 13. It should be noted that “agglomerated particles” and “crystalline particles” are significantly different than crystallites. As discussed in the paper entitled “Application of Powder Diffraction for Study of Nanomaterials” from the website [www.xrd.us](http://www.xrd.us), particle size and crystallite size do not have the same meaning. Particles could (and most often they do) from several or many small crystallites. Therefore, the cited Examples and passages do not support Appellant’s argument that the crystallite size is “comparable” to the thickness of the photocatalytic coating. Furthermore, the Appellant has not provided the “most commonly encountered mean size of anatase TiO<sub>2</sub> crystallites” as discussed by the Specification. The Examiner is unable to make a comparison because the required size of the crystallites has not been clearly defined. It should be noted that this further supports that the limitation of “comparable” is not supported by the Specification.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner’s answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Jennifer Boyd

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